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Quantum Mechanics and the Relativity of Human Identity: Tom Stoppard's *Hapgood*

Abstract: Tom Stoppard's *Hapgood* has often been discussed as a spy drama employing intertextual references to physics (quantum mechanics, uncertainty principle) and mathematics (Euler's geometry) to detect a traitor in the English secret-service network. On several occasions, however, Stoppard has argued that the play is specifically about a woman, Hapgood, whose identity is not easy to define. On the one hand, she is the leader of a group of agents. On the other, she is the mother of little Joe, whose father is Joseph Kerner, a member of the network and an atomic physicist whose explanations of physics and mathematics illuminate the meaning of the events of the play. Apart from the two elements inherent in the identity of Hapgood, that is, the "technical" and the "personal," she also appears in the double role of herself and her twin sister, Celia, this being an attempt, and a successful one, to confirm the suspicions that the traitor in their midst is Ridley, who not only is a double agent working both for the English and the Russians but also has a real twin brother.

In 1980, when asked by Joost Kuurman whether the starting point of his plays was an idea or a lot of research, Tom Stoppard answered:

It's an idea. I don't really, on the whole, write plays which require research, I mean, some of them look as though they require research, but they're written out of my own interests. Certainly I had to do some research, if you like, for *Travesties*, because there was a separate decision to write about certain people in a certain place, so I read, I had to read a lot; but apart from that it's not really a matter of researching a subject and then feeling that one has something to write about. It's the other way round really. It starts off with an idea and I find out things if I need to. (Interview 44–45)

Taking into account Stoppard's output, one has to admit that the research done by him out of interest is especially impressive as it includes history, philosophy, art (especially painting), literature and science. Tom Stoppard's *Hapgood* (1988) is a spy drama which not only parodies "the double agent plot of Le Carré" (Rusinko 110) but also, according to Demastes, "is a spy thriller that operates at several science-informed levels" (42). The plot of the play concerns discovering which of the members of the British Secret Service is a double agent acting simultaneously for the British and the Russians. The investigation is carried out

systematically and carefully, and is metaphorically illustrated by discoveries of modern physics: Albert Einstein's theory of relativity, Richard. P. Feynman's *The Character of Physical Law* postulating that the nature of electrons which may be perceived as either particles or waves escapes a clear definition, and Karl Heisenberg's uncertainty principle.

Making numerous references to the discoveries of modern physics, *Hapgood* demonstrates the changes that have occurred in our conception of reality as a result of the shift from Newtonian mechanics to the formulation of relativity and quantum theory. Classical Newtonian physics postulated a permanent external world, fixed, objective and describable. Scientific laws were always based on strict cause-and-effect principles and were independent of the perceiver. Modern physics has shown that once it is discovered that a law does not hold in conditions in which it has so far been considered to hold, it is necessary to search for new explanations. This notion was expressed by Richard Feynman in his *Lectures on Physics*, from which Stoppard takes the motto for his play and to which he often refers in the course of the play.

As is so often in the case of Stoppard's plays, *Hapgood* is also a combination of different elements and ideas which interplay with one another to form a complex and elaborate structure. Commenting on the process of writing *Jumpers*, Stoppard made a few remarks which are fully justified in the context of his literary output: "At the same time there is more than one point of origin for a play, and the only useful metaphor I can think of for the way I think I write my plays is convergences of different threads. Perhaps carpet-making would suggest something similar" (qtd. in Hayman 4–5).

In the very same year, 1988, that is, eight years after having written *Hapgood*, Stoppard indicated several ideas which gave impetus to the play. He told Shusha Guppy:

For *Hapgood*, the thing I wanted to write about seemed to suit the form of an espionage thriller. . . . It had to do with mathematics. I am not a mathematician but I was aware that for centuries mathematics was considered the queen of the sciences because it claimed certainty. It was grounded on some fundamental certainties – axioms – which led to others. But then, in a sense, it all started going wrong, with concepts like non-Euclidean geometry – I mean, looking at it from Euclid's point of view. The mathematics and physics turned out to be grounded on *uncertainties*, on probability and chance. . . . I started reading mathematics without finding what I was looking for. In the end I realized that what I was after was something which any first-year physics student is familiar with, namely quantum mechanics. . . . I didn't research quantum mechanics but I was fascinated by the mystery which lies in the foundation of the observable world, of which the most familiar example is the particle-wave duality of light. I thought it was a good metaphor for human personality. The language of espionage lends itself to this duality – think of the double agent. (qtd. in Guppy 179–80)

In an interview with Peter Lewis, Stoppard claimed he was eager to “write about ultimate uncertainty. Quantum mechanics is about probability and the lack of absolutes. In investigating matter, the deeper they go, the smaller the particles, the less certainty they find. That seemed to me to be an exploitable idea” (“Quantum Stoppard” 58). He told Michael Billington soon after the play’s opening night: “The play is specifically about a woman – Hapgood. . . . The central idea is that inside Hapgood one there is a Hapgood two sharing the same body; that goes for most of us” (qtd. in Billington 28). “The espionage thing,” he insisted in a television interview with Kate Kellaway, “came second. It was just a consequence of looking for some sort of narrative which would try to exemplify the first thought” (qtd. in Delaney 130).¹ Stoppard’s last declaration gave the subtitle to a subchapter discussing the play in William Demastes’ study of contemporary theatre, “Stoppard’s *Hapgood*: Double Agency and Quantum Personalities” (41–49), as it aptly combines the dualities existing in the play: the particle-wave duality in quantum mechanics, double agents, three couples of twins working in the network, “technical” and “personal” sides of most characters. Fleming also notices the duality of the structure of the play as nearly all of the scenes have their doubles (181).

The basic propositions taken from quantum mechanics are explained to Paul Blair, Hapgood’s superior, by Joseph Kerner, an atomic physicist; a double agent, working as a sleeper for the Russians and as a joe for the British; the father of Hapgood’s son, Joe. The mystery inherent in quantum mechanics makes Kerner doubt the possibility of describing objective reality. Twice in the course of the play, during dialogues with Blair, who insists that he likes “to know what’s what,” Kerner remarks ironically: “[O]bjective reality.” When, on the first occasion, Blair observes: “I thought you chaps believed in that,” a conversation follows:

KERNER. ‘You chaps’? Oh, *scientists*. (*Laughs*) ‘You chaps!’ Paul, objective reality is for zoologists. ‘Ah, yes, definitely a giraffe.’ But a double agent is not like a giraffe. A double agent is more like a trick of the light. Look. Look at the edge of the shadow. It is straight like the edge of the wall that makes it. Your Isaac Newton saw this and he concluded that light was made of little particles. Other people said light is a wave but Isaac Newton said, no, if light was a wave the shadow would bend round the wall like water bends round a stone in the river. . . . Every time we don’t look we get a wave pattern. Every time we look to see how we get wave pattern, we get particle pattern. The act of observing determines the reality.

BLAIR. How?

KERNER. Nobody knows. Einstein didn’t know. I don’t know. There is no explanation in classical physics. Somehow light is particle and wave. (10–12)

¹ See also Stoppard, “Quantum Stoppard” (58).

On the second occasion, the following conversation takes place:

KERNER. So now I am a prime suspect – I love that phrase, it's in nearly all the books. A prime is a number which cannot be divided except by itself, and all the suspects are prime; threes, fives, sevens, elevens . . . But really suspects are like squares, the product of twin roots, fours, nines, sixteens . . . what is the square root of sixteen?

BLAIR. Is this a trick question?

KERNER. For you probably.

BLAIR. Four, then.

KERNER. Correct. But also minus four. Two correct answers. Positive and negative. I am very fond of that minus, it is why I am what I am, I mean not as a suspect but as a physicist. Literally. I am an alchemist of energy and mass, I can turn one into the other and back again, because energy is mass multiplied by the speed of light squared. But the famous equation was not precisely found in its famous form, it was really the *square* of that, and E equals MC squared is a square root. But of course so is E equals *minus* MC squared, an equally correct solution . . . just like with your sixteen. Nobody took notice of the minus for years, it didn't seem to mean anything, there was nothing to which it belonged, you needed a minus world, an anti-world, with all the charges reversed, positive for negative, negative for positive. But finally someone trusted the mathematics and said – Well, maybe there is anti-matter; anti-atoms made of anti-particles. And lo!, they started to find them. And so on, et cetera, until, here I am, Joseph Kerner, the anti-matter man at the zoo. . . . We're all doubles. Even you. . . . The one who puts on the clothes in the morning is the working minority, but at night – perhaps in the moment before unconsciousness – we meet our sleeper – the priest is visited by the doubter, the Marxist sees the civilising force of the bourgeoisie, the captain of industry admits the justice of common ownership. (71–72)

As a matter of fact, Kerner (Stoppard?) makes three mathematical mistakes in the above speech. Firstly, a prime may be divided both by itself and by one. Secondly, E does not have to be a square. Take, for instance, $M = 2$ and $C = 3$. Calculated on the basis of Einstein's equation, E is then 2 multiplied by 9 and equals 18, which is not a square. Thirdly, it does not follow from his discussion of Einstein's equation that anti-matter exists. What he "proves" at best is that E , being a square number (a mistake in itself), has both a positive and a negative root and thus anti-energy exists. The mathematical correctness does not seem to be important in this case, however. What is important is the point being made about human nature. At the root of a single individual, we may find two (sometimes even more) opposites: priest and doubter, patriot and traitor, socialist and capitalist, "sleeper" and "joe." The notion of duality inherent in human nature helps Stoppard present and solve the mystery concerning espionage. Not only are some of the spies double-agents but, having twins, they are literally doubled. The analogy between particle physics and square numbers extends beyond espionage to include a much more general notion of the mystery of human identity itself and the nature of reality as such.

Elizabeth Hapgood, the only woman in the man-dominated world of espionage presented in the play, is the drama's main character as the title indicates. She appears in nearly all the scenes, the only two exceptions being scene two in act one and scene three in act two which are set at the zoo and present Kerner explaining Feynman's experiment and the nature of a square number to Blair. When the audience first see her in the opening scene at the pool, Hapgood is taking part in an exchange of briefcases, an act which aims to find the traitor among them. She is then efficient, fully in command of the situation until, later on, it appears that they have blown it. When she makes her second appearance in scene three, she is busy watching her son playing rugby and discussing problems concerning the network with her superior, Blair. Hapgood's reactions to her son's achievements as well as the remarks she makes about him indicate that she is (or, at least, would like to be) a loving mother. The first two glimpses of the woman we get in the play, then, present her "technical" and "personal" sides.

In several places in the play, references are made to the difference between the "technical" and "personal" aspect both of the situation and the characters involved (17, 24, 52). Thus, then, two aspects of Hapgood's character are presented. In the world of espionage, she is the network co-ordinator: an intelligent and efficient person, not only knowing the tricks of the trade but also capable of winning a chess game without having a chess board in front of her. It is here that she has her "joes" and is called by them "Mother." Blair comments on the origin of her code name: "[S]he was called Mother when she joined the Defence Liaison Committee – the tea would arrive and the Minister would say, 'Who's going to be mother?'" (27). When the tea-tray is brought in during one of the meetings in the course of the play, she asks "*brightly*" whether she should be mother (39). To some extent, at least, even in the present times, she is a mother figure for her joes, making sure they are treated properly and not harmed by unjustified accusations and suspicion. On the whole, "technically" speaking, she is a strong, most independent woman who organises and supervises the activities of her network and the men working in it.

On the "personal" level, she seems very vulnerable, unhappy and torn by conflicting emotions of whether to follow the line of duty towards the network or towards the closest ones, her two "Joes," Joseph Kerner and their son, Joe Hapgood. In the past, when she had a love affair with Joe Kerner and got pregnant, she decided to keep it secret because, as Ridley, another British agent and Hapgood's close associate, phrases it, "it was a choice between losing a daddy and losing a prize double, a turned mole who would have been blown overnight if he was known to be the father, and we aren't in the daddy business, we're in the mole business" (81). At present, she senses that little Joe's staying at a boarding school and having to pretend he was adopted is very stressful for

him, on which she comments to Blair at the rugby pitch while both of them are watching Joe play (18–19). Hapgood's vulnerability is visible in this scene and in the fact that she invites Blair to have tea with her: "Do you want some tea? They lay it on for parents and he's entitled to two" (24). She seems to be dependent on Blair, her section chief, whom she looks upon as a surrogate father-figure for herself and her son. She needs his friendship and responds to his affection, and that is why she is so disappointed and infuriated when it appears at the end of the play that, making little Joe come to the swap scene, Blair jeopardised his safety (86).

Hapgood's private self is also stressed during the scene with Kerner when she tells him that his career will be over after his cover as her "joe" has been blown. Then suddenly she switches from "technical" to "personal": "I won't need you any more, I mean I'll need you again – oh, *sugar!* – you *know* what I mean – do you want to marry me? I think I'd like to be married?" Kerner, however, tells her he has decided to go back to Russia and she concludes: "I don't think I'm going to marry you after all" (50). Her feelings for him seem uneasy to define. It could be said that Hapgood does not really know whether or not she wants to marry Kerner. It could also be said that because her proposal has not been accepted, she takes it back and pretends she does not care. She switches back to the "technical" level at the end of their conversation and reminds him about their professional meeting in the evening during which they will set a trap for Ridley. Her shifting from one aspect of her personality to the other is an instance of transgression, as defined by Michel Foucault: "[T]ransgression constantly crosses and recrosses a line which closes behind it in a wave of extremely short duration" (34).

The trap set for Ridley consists of two elements. Firstly, Ridley is told that little Joe has been kidnapped and will be exchanged for the materials delivered to the Russians by him. Only at the end of the scene, when Ridley has already left the room and we watch Hapgood talking on the phone with her son, who is safe at school, do we discover that the characters were pretending, playing out a scene of their own making in order to deceive Ridley. The ambush, then, has been set for Ridley but not for the audience. During the swap scene it appears that Blair has acted on his own. He has set his own ambush and, without warning or consulting anyone, has had the boy brought to the pool.

Secondly, in order to achieve her aim, Hapgood decides to do so with the aid of her own twin, Celia Newton. In this case, the ambush is set both for Ridley and for the audience. When the scene in a photographer's studio opens, we see Hapgood, who "is as different from her other self as the flat is different from her office" (65). Ridley, talking on the radio with Hapgood, comments on this, saying: "She may be your twin sister but there the resemblance ends" (66). The disorderly, absent minded, pot-smoking, bohemian Celia is the opposite of the matter-of-fact,

well-organised Hapgood. The gap separating them is also underscored by the differentiation of the language they use. Hapgood never swears, this being pointed out by Blair both indirectly, in teasing her with “f-f-fiddle” (19), the only swear word she uses, and directly, when he asks her: “[D]o you never use bad language, never ever?” (23). Celia, on the other hand, uses language full of slang expressions and obscenities, the very first word uttered by her being scatological. It appears that Ridley wants Celia to play the part of Hapgood, which will be a difficult task as the two women are diametrically different.

As we next see them, they are in Hapgood's office. When Maggs, Hapgood's secretary, enters, Ridley has to be very inventive not to let the disguise of the woman be revealed. He does not fully succeed, though, as Celia tells Maggs to “piss off” and “[t]he world ends for MAGGS, just for a moment” (76). They are now waiting for the phone call which is to settle the details of the swap and Celia makes Ridley start playing a card game. The situation is complicated as they do not have a deck and Ridley does not know which game they are playing. The basis of “snap,” the game they are playing, is twinning cards. The players reveal successive cards simultaneously and if they match, the first one to say “snap” wins the pair. The player who gets the bigger number of pairs wins. The choice of the game metaphorically underscores the doubling of the players and spies, there being two Ridleys as well as twin sisters. Celia wins this deckless card game just as Hapgood wins her boardless chess games. When the telephone rings, Ridley nearly breaks her hand, so that when she starts speaking, “*she is whimpering and disoriented*” (79). Not only does he want Celia to pretend she is Hapgood but he also wants her to sound as if she were in pain over the loss of her son. This scene demonstrates the notion so important in the play that “the act of observing determines the reality” (12). The obvious explanation of her sounding as if she were in pain is that she actually *is* in pain. Her interlocutor on the phone may be justified in thinking that her sobbing is an expression of her grief and sorrow concerning Joe. The audience, however, know that her cry of pain has quite a different explanation. The interpretation given by an individual perceiver is thus determined by their perception of reality and the information about it provided to them. As the scene ends and Ridley has left, the audience discover they have been ambushed: Hapgood tells Maggs what the next chess move is to be. It is only then that the audience learn there is no Celia: Hapgood is playing the role of her twin sister in order to trap Ridley.

In scene five, set in a hotel room, we see Hapgood (playing the role of Celia again) sleeping. In the preceding scene, Kerner, while discussing everyone's doubles, mentioned meeting our “sleepers,” our hidden selves (72). At the same time, he complained about never having seen Elizabeth sleeping (74). Now we watch her sleeping, the scene evoking numerous possible interpretations. Firstly, the sleeping woman is Celia, the opposite of Hapgood, who never sleeps.

Secondly, she is Hapgood's "sleeper," her double, her "personal" self. And thirdly, she is, as she puts it, Ridley's "dreamgirl," "Hapgood without the brains or the taste," this being her answer to his question: "*Who the hell are you?*" (83). In the next scene, set at the pool, Ridley meets his double and "*the two men embrace briefly*" (83). The ensuing exchange of briefcases points to Ridley as the traitor, a double agent who is also physically doubled, working with his twin brother. It is unclear whether he realises that Hapgood does not have a twin sister. If we consider the final sentence uttered by him before being shot, "Well, now I don't know which one you are. One of them can shoot and one of them can. . ." (85), we can assume that he believes there are two of them. Yet, if this interpretation is accepted, it is difficult to account for his earlier speech:

Listen, be yourself. These people are not for you, in the end they get it all wrong, the dustbins are gaping for them. Him most. He's had enough out of you and you're getting nothing back, he's dry and you're the juice. We can walk out of here, Auntie. (83)

The use of the word "Auntie" indicates that he is speaking to Celia and not to Hapgood. Yet, if this is the case, what he is saying does not make sense, the words being addressed to Hapgood and not Celia. Besides, in the earlier scene, he promised he would kill Hapgood (and not Celia) if she set him up (82). It seems, therefore, that he does know Celia has never existed as an individual but has been only the other self of Hapgood, her sleeper, her private self. If this option is taken, the words "be yourself" are an urge directed to Hapgood, asking her to stop treating her "technical" side as more important and to concentrate on her more real, "personal" self. Hapgood does not or cannot respond and, as Ridley reaches for his gun, he is shot by her. While Ridley's body is carried away, Wates spits at her a particularly well chosen epithet, "Oh, you *mother*" (86). Gradually, a transgression begins to take place within Hapgood: "*[h]er anger starts dispersing into misery*" (86). She becomes aware of the implications of the situation and of the fact that she has killed a man who, even though suspecting a possible risk, decided to help her son. When taking this decision, Ridley considered the "personal" more important than the "technical." While shooting him, Hapgood acted as Mother and not as the mother of a child who has been saved by Ridley. The killing of Ridley puts her under a great stress. Firstly, as an ultimate act of killing someone and, secondly, as the killing of a person who loves her and is willing to sacrifice his safety in order to protect her and her child. There is yet one more aspect of the situation which should be underlined here. Ridley, who transgresses the "technical" by putting the "personal" before it, is dead. Blair, for whom the "technical" dominates over the "personal" and who has put little Joe at risk, thinks that Hapgood will get over it. Hapgood, however, has decided to withdraw. When he argues that "[o]ne has to pick oneself up and carry on. It's them or us, isn't it?" she finishes her answer

insisting on the need to withdraw by saying "oh, f-f-fuck it, Paul!" (87). The phrase she uses is evidently one of Celia's, not one of Hapgood's. It is yet Hapgood who uses it. It can be argued that her using this phrase is an indication that her "sleeper" has at last awakened. Due to the new understanding of the rules governing espionage achieved thanks to the recent events, she has decided to withdraw and to concentrate on the "personal," which is, as she has found out, more important than the "technical."

The last glimpse the audience get of her in the play is her "personal" self: she is at the rugby pitch, watching her small Joe playing the game. Her other Joe, Joseph Kerner, is standing next to her, having come to say good-bye to her before his departure for Russia. Kerner is introduced to Joe, yet the boy is not told that he is his father. Hapgood suggests to Kerner that they could go to have tea together: "They lay it on for parents" (88). This part of the conversation is reminiscent of an earlier conversation at the pitch between Hapgood and Blair, yet now she does not repeat the end of the sentence ("and he's entitled to two," 24). When Kerner refuses to join her, "[s]he *breaks down*" and he tries to comfort her. As he is about to leave, she cries out: "How can you go? *How can you?*" Then she starts watching the game which has just begun. A few moments later, "[s]he *turns round and finds that KERNER is still there. She turns back to game and comes alive*" (89).

The ending of the play is ambiguous. According to Roger Rees, who played the part, "maybe Kerner does not stay at the rugby pitch or maybe he stays for the rest of his life or maybe he stays for two days" (qtd. in Delaney 147). The ending does not provide an answer as to whether Kerner will leave or stay, yet it states explicitly what is most important in life. Simon Jones, who played Blair in the Los Angeles production, has remarked that the events of the play make it obvious that what is most real and important in life are "straightforward ordinary human relationships" (qtd. in Delaney 157). As the curtain falls, the audience know that Hapgood has given up the "technical" for the sake of the "personal." Little Joe, who earlier did not even have a mother, Hapgood's "personal" self being suppressed by her "technical" self, now gets his mother back. Maybe he will also have a father in the end, the closing of the play indicating that Kerner might stay after all. In his earlier play, Stoppard argued that every good boy deserves a father and there is no reason to suspect that Joe might be an exception to this rule.

The Faber and Faber edition of *Hapgood*, presenting three numbered booths at the pool and two briefcases placed outside them, refers to the "technical" side of the play and is evocative of the beginning of the drama as far as the world of espionage is concerned. The cover of the programme of the Aldwych Theatre was "dominated by the photograph of young Hapgood, its edges tattered where his father has torn it from a team picture, and meeting directly over the heart of

the boy are a pair of rifle sights" (Delaney 140), and referred to and stressed the "personal" aspect of Stoppard's drama.

The complexity inherent in human nature is not restricted to Hapgood only, even though in her case it is most evident. This notion is evoked by a specific use of names. Hapgood is given a great number of them. Agents Ridley and Merryweather call her "Mother"; her secretary, Maggs, calls her "Mrs Hapgood"; Wates uses the form "ma'am"; Blair calls her "Mother" and "Elizabeth"; little Joe uses the phrases "Mummy" and "Mum"; and Celia speaks of "Betty." Finally, Kerner employs the Russian form of her name, "Yelizaveta," its diminutives, "Lilya" and "Lilitchka," and "mamushka." The etymological meaning of the protagonist's two other names is discussed by Hersh Zeifman, who notices that the name, Hapgood, consists of two elements and "Hap (defined by the *Old English Dictionary* as 'chance or fortune, luck, lot') is specifically linked to good" (196). He furthermore stresses the fact that when Hapgood chooses to play her twin sister, "she slyly names herself Celia (Latin caelium: heaven) Newton" (194). The variety of names used for Hapgood seems to point out that, even though she is the same individual, she yet presents divergent images to different people.

The names of other characters are also telling and add to the overall impact of the play. Ridley (a telling name in itself as the characters and the audience alike have to solve the riddle of his identity) appears to have Ernest as his first name, which becomes meaningful if we realise that while he is a traitor in the "technical" sense, he is most earnest in the "personal" sense.² Zeifman points out that "Kerner is thus as much a riddle as Ridley is . . . , the enigma of Kerner's identity, like Ridley's, is embodied in his very name (German Kern: the nucleus of atom)" (191). It can be said, then, that the use of specific telling names is one of the ways of introducing the principal thematic interest of the play, that is, the difficulty of establishing the nature of human identity and, by extension, the nature of reality as such.

The paper began with Stoppard's opinion comparing writing plays to "carpet-making" and his four opinions concerning the different "threads" which converge in *Hapgood*, indicating that the form of a spy thriller, combined with the achievements of quantum mechanics, seemed most suitable to present the duality of human nature. In a conversation with Hapgood, Kerner praises this genre:

I like them. Well, they're different, you know. Not from each other naturally. I read in hope but they all surprise in the same way. Ridley is not very nice: he'll turn out to be all right. Blair will be the traitor: the one you liked. This is how the author says, "You see! Life is not

² Affinities between *Hapgood* and *The Importance of Being Earnest* are discussed by Cohn (144) and Zinman (316).

like books, alas!" . . . When I have learned the language I will write my own book. The traitor will be the one you don't like very much, it will be a scandal. And I will reveal him at the beginning. I don't understand this mania for surprises. If the author knows, it's rude not to tell. (47)

It could be argued that the description of what Kerner's novel will be like is the description of *Hapgood*. The author, Stoppard himself, does not reveal Ridley as the traitor at the beginning, yet he constructs the play in a way similar to the rules governing an experiment. From the beginning of the play, the audience are aware that the traitor is to be found while the play presents the act of setting up an experiment whose aim is to discover whether Ridley is the guilty one or not. Unlike a physics experiment, however, the drama not only says how the world of things works but also what the world of things means. The relativity and uncertainty concerning both the world of physics and the world of human beings are unquestionable, yet the overall impact of the play and its final scene indicate that one should not sacrifice the "personal" for the "technical," that one should remain faithful to oneself and the loved ones. Paradoxically enough, among the numerous dichotomies discernible in the play (light as both particle and wave, double agents, twins, art and science, illusion and reality) yet another one can be noticed: overall relativity is put side by side with idealism visible in the stress placed on the not relative value of simple and basic human relationships.

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